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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/249,216	02/12/1999	JANNE LAAKSO	297-008493-U	9691

7590   08/27/2002

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EXAMINER
MOORE, JAMES K

ART UNIT	PAPER NUMBER
2682	

DATE MAILED: 08/27/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.		Applicant(s)
Office Action Summary	09/249,216		LAAKSO ET AL.
	Examiner		Art Unit
	James K Moore		2682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>22 May 2002</u> .

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-10,12,13 and 15-20</u> is/are pending in the application.

    4a) Of the above claim(s) <u>17 and 18</u> is/are withdrawn from consideration.

5)☒ Claim(s) <u>12,19 and 20</u> is/are allowed.

6)☒ Claim(s) <u>1-10,13,15 and 16</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☒ The proposed drawing correction filed on <u>22 May 2002</u> is: a)☒ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

        1.☒ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____ .

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4)☐ Interview Summary (PTO-413) Paper No(s). _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: .

DETAILED ACTION

Drawings

1.   The proposed drawing correction and/or the proposed substitute sheets of

drawings, filed on May 22, 2002 have been approved. A proper drawing correction or

corrected drawings are required in reply to the Office action to avoid abandonment of

the application. The correction to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2.   The text of those sections of Title 35, U.S. Code not included in this action can

be found in a prior Office action.

3.   Claims 1-9, 13, and 16 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Persson (U.S. Patent No. 6,067,446) in view of Pelin (U.S. Patent

No. 5,937,014).

Regarding claim 1, Persson discloses a power control method in a mobile system

based on a spread spectrum technique (CDMA) and having a mobile station and a base ·

station. The transmit power of more than one bearer is determined at a time with the

aid of the method comprising: forming a control function (equation 13) partly on the

basis of a quantity (path loss L_j) characterizing at least one bearer; and calculating the

control function in order to determine new output power values of the bearers. See col.

4, lines 48-62 and col. 5, line 51 through col. 8, line 39. Persson does not disclose that

the quantity characterizing the bearer at least partly represents the fast fading

experienced by the bearer. However, Pelin discloses that the fast fading experienced by a bearer is another factor which degrades received signal quality. See col. 1, lines 13-21. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Persson with Pelin, such that the control function is also formed partly on the basis of a quantity which partly represents the fast fading experienced by a bearer, in order to compensate for the effects of fast fading on the signal quality of the bearer.

Regarding claim 2, Persson in view of Pelin teaches all of the limitations as applied to claim 1 above. Persson also discloses that the control function is formed at least partly on the basis of an at least partial history of the power control of at least one bearer. See equation 16.

Regarding claim 3, Persson in view of Pelin teaches all of the limitations as applied to claim 1 above. Persson also discloses that the transmit power of more than one bearer is determined when the transmission of at least one bearer (belonging to M4) is initiated. See col. 5, line 51 through col. 6, line 8.

Regarding claim 4, Persson in view of Pelin teaches all of the limitations as applied to claim 1 above. Persson also discloses that the transmit power of more than one bearer is determined when the transmission of at least one bearer is terminated. See col. 2, lines 16-27; col. 3, lines 25-35; and col. 7, lines 22-24.

Regarding claim 5, Persson in view of Pelin teaches all of the limitations as applied to claim 1 above. Persson also discloses that the transmit power of more than

one bearer is determined when the transmit power of at least one bearer changes. See col. 3, lines 36-44.

Regarding claim 6, Persson in view of Pelin teaches all of the limitations as applied to claim 1 above. Persson also discloses that the transmit power of more than one bearer is determined when the target level of the correctness (frame error rate) of at least one bearer changes. See col. 7, lines 25-35.

Regarding claim 7, Persson in view of Pelin teaches all of the limitations as applied to claim 1 above. Persson also discloses that the transmit power of more than one bearer is determined when the transmission rate of at least one bearer changes. See col. 5, lines 51-60.

Regarding claim 8, Persson in view of Pelin teaches all of the limitations as applied to claim 1 above. Persson also discloses that the transmit power of more than one bearer is determined when at least one base station of at least one bearer is changed in a macro diversity combination. See col. 9, lines 51-64.

Regarding claim 9, Persson in view of Pelin teaches all of the limitations as applied to claim 1 above. Persson also discloses that the control function may be at least partly formed on the basis of the desired correctness levels (frame error rate) of the bearers. See col. 7, lines 25-35.

Regarding claim 13, Persson in view of Pelin teaches all of the limitations as applied to claim 1 above. Persson also discloses that the output power of more than one base station and the mobile stations managed by the base stations may be controlled with the method, and that the control function is formed partly on the basis of

how strong the signal of each base station is received in at least one mobile station of each other base station. See col. 10, lines 4-12.

Regarding claim 16, Persson discloses an element (base station) of a mobile system comprising: means to generate a quantity (path loss L_j) characterizing at least one bearer; means to determine the output power for more than one bearer partly on the basis of the quantity; and means to control the output power of at least one bearer on the basis of the output power values. See col. 4, lines 48-62 and col. 5, line 51 through col. 8, line 39. Persson does not disclose that the quantity characterizing the bearer at least partly depends on the fast fading experienced by the bearer. However, Pelin discloses that the fast fading experienced by a bearer is another factor which degrades received signal quality. See col. 1, lines 13-21. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Persson with Pelin, such that the control function is also formed partly on the basis of a quantity which partly depends on the fast fading experienced by a bearer, in order to compensate for the effects of fast fading on the signal quality of the bearer.

4.   Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Persson in view of Pelin as applied to claim 1 above, and further in view of Reed (U.S. Patent No. 5,574,984).

Regarding claim 10, Persson in view of Pelin teaches all of the limitations as applied to claim 1 above, but does not teach that the method comprises a step in which it is check whether each determined output power value is within the range formed by

the typical minimum and maximum limits of the respective bearer, whereby the output

power values are taken in use if no one of the values is outside the region. However,

Reed discloses a power control method which comprises checking whether an output

power value is within a range formed by typical minimum and maximum limits of a

bearer. This allows the method to account for the power limitations of the base station

equipment. See col. 1, lines 45-59. It would have been obvious to one of ordinary skill

in the art at the time of the invention to modify Persson in view of Pelin with Reed, such

that the method comprises a step in which it is check whether each determined output

power value is within the range formed by the typical minimum and maximum limits of

the respective bearer, in order to stay within the limitations of the base station

equipment.

5.   Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Persson

in view of Pelin as applied to claim 1 above, and further in view of Haartsen (U.S. Patent

No. 5,491,837).

Regarding claim 15, Persson in view of Pelin teaches all of the limitations as

applied to claim 1 above, but does not teach that the method comprises a step in which

a decision is made on the basis of the generated output power values for allowing the

transmission of at least one bearer. However, Haartsen discloses a bearer allocation

method which uses generated output power value measurements for deciding which

bearers to use for transmission. This allows the system capacity to be maximized

because the bearers having the minimum required transmission power are allocated.

See col. 3, line 34 through col. 4, line 7. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Persson in view of Pelin with Haartsen, such that a decision is made on the basis of the generated output power values for allowing the transmission of at least one bearer, in order to maximize system capacity.

Response to Arguments

6.   Applicant's arguments filed on May 22, 2002 have been fully considered but they are not persuasive.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Persson teaches a power control method which uses a control function to determine output power values in a CDMA system. The control function is formed on the basis of a quantity (L_j) which represents the loss between a base station and a mobile station. Pelin teaches that fast fading is one type of loss which occurs between a base station and a mobile station. The examiner maintains the position that it would have been obvious to combine the teachings of these references, so that the effects of fast fading are reduced by the power control method.

Allowable Subject Matter

7.   Claims 12, 19, and 20 are allowed.

8.   The following is a statement of reasons for the indication of allowable subject

matter:

Claim 19 is allowed because it contains the subject matter of claim 11 indicated

to be allowable in the Office Action mailed on January 10, 2002 (Paper No. 8).

Claim 20 is allowed because it contains the subject matter of claim 14 indicated

to be allowable in the Office Action mailed on January 10, 2002 (Paper No. 8).

Claim 12 is allowed because it depends on claim 19.

Conclusion

9.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ken Moore, whose telephone number is (703) 308-6042. The examiner can normally be reached on Monday-Friday from 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin, can be reached at (703) 308-6739.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

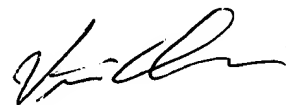(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Ken Moore

JKM

8/19/02

VIVIAN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600